United States Senate

WASHINGTON, DC 20510

June 14, 2007

Senator Robert C. Byrd
Chairman
Committee on Appropriations
Washington, DC 20510

Senator Thad Cochran
Ranking Member
Committee on Appropriations
Washington, DC 20510

Senator Barbara Mikulski
Chairwoman
Subcommittee on Commerce,
Justice, Science & Related Agencies

Senator Richard Shelby
Ranking Member
Subcommittee on Commerce,
Justice, Science & Related Agencies

Dear Chairman Byrd, Chairwoman Mikulski, Senator Cochran, and Senator Shelby:

Water is a precious and scarce natural resource. The prolonged drought over large portions of the United States, particularly the West has had a range of adverse effects: record wildfires, crop failure, threats to endangered wildlife and municipal water shortages.

Recognizing this, it is increasingly critical that we provide the resources necessary to gather the data required to make sound decisions related to our present and future water use. The economic costs of drought can be mitigated through improvements in forecasting accuracy to help detect drought farther in advance, enhance forecast accuracy, and more precisely indicate location, intensity, and duration.

One such invaluable data source that federal and state agencies have come to rely on is the Landsat Program, a series of satellite missions jointly managed by NASA and the U.S. Geological Survey. Since 1972, Landsat satellites have collected information about Earth from space, taking specialized digital photographs of the continents and surrounding coastal regions. This has enabled scientists to evaluate the dynamic changes caused by both natural processes and human practices, including drought.

The thermal infrared (TIR) data provided by Landsat 5 and Landsat 7 is used to calculate evapotranspiration and water use on a field-by-field basis, as well as to monitor related land uses and changes over large areas. However, these satellites are failing, having served well beyond their designed useful life. Landsat 5 is 23-years old and Landsat 7 has malfunctioned, making it of limited value for water resource management needs. NASA is scheduled to deploy Landsat 8, a "free-flyer" spacecraft, in 2011. The President's FY 2008 request for funding for NASA's Earth Systematic Missions Program-Landsat Data Continuity Mission (LDCM), calls for $160.2 million to complete the instrument preliminary design review and award contracts for building the spacecraft.

However, NASA's request for LDCM and an Operational Land Imager (OLI) **does not** include funding for a thermal infrared sensor. The total additional cost for such a sensor, with capabilities similar to Landsat 5 and Landsat 7, is estimated at around $90 million dollars. We respectfully request that the Appropriations Committee add $35 million to the President's FY2008 LDCM request and direct NASA to immediately take the necessary steps to ensure a thermal sensor is included on Landsat 8 to continue providing this vital information for current and future natural resources management.

No other federal program can provide this information, nor is there any comparable public or private source, locally or internationally. If we fail to act now, we will lose this important tool for the long-term future. Even now, it is likely NASA may need to build the thermal data sensor "in-house," so as not to delay the scheduled 2011 launch.

As the drought continues and we struggle to predict and adapt to future water and land use changes, this thermal information becomes increasingly critical. It is vital for evaluating seasonal surface and ground water use, planning water budgets, managing irrigation practices, administering water rights, overseeing compliance with USDA conservation-related contracts, studying impacts related to converting agricultural lands to urban uses, evaluating water needs of fish and wildlife, including endangered species, and ensuring that water is used in compliance with state and federal law, interstate compacts, and international treaties.

Therefore, we urgently ask that you include $35 million in FY2008 under NASA's Landsat Data Continuity Mission for the addition of a thermal sensor on Landsat 8. We cannot afford to lose this tool and the critical information it provides for water resource and infrastructure planning.

Sincerely,

Ken Salazar
United States Senator

Mike Crapo
United States Senator

Max Baucus
United States Senator

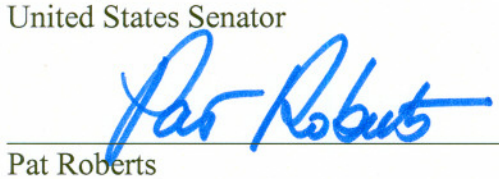
Tim Johnson
United States Senator

Jeff Bingaman
United States Senator

John Thune
United States Senator

Ron Wyden
United States Senator

Gordon Smith
United States Senator



Pat Roberts
United States Senator